



**Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Mining Section
3711 Middlebrook Pike
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Phone (865) 594-6035 Fax (865) 594-5253**

September 9, 2008

**NOTICE OF DETERMINATION
OF NO DEGRADATION**

**NPDES Permit TN0003549
Vulcan Construction Materials, LP
River Road Quarry
Davidson County**

Dear Interested Citizen:

Vulcan Construction Materials, LP, proposes to modify its NPDES permit for the River Road Quarry located at 5853 River Road in Davidson County, Tennessee. The modification includes the addition of 79.4 acres with a new outfall and associated treatment ponds. The permitted area would total 182.0 acres with this expansion.

The NPDES permit for this operation authorizes the discharge of treated wastewater and storm water. Two existing outfalls (001 and 002) discharge into the Overall Creek embayment of Cheatham Reservoir. The new outfall (003) will discharge into an unnamed tributary of Overall Creek. The proposed point of discharge is approximately one mile upstream of the main channel of Cheatham Reservoir. From the proposed point of discharge, the unnamed tributary travels approximately 1200 feet to its confluence with Overall Creek, then another 800 feet in Overall Creek to the head of the embayment.

The reach of Cheatham Reservoir that includes the Overall Creek embayment is designated as Exceptional Tennessee Waters (ETW) from Marrowbone Creek to the Bordeaux Bridge. The ETW designation is based on the presence of Blue Sucker, a fish species that is listed by the state as threatened. The Department's stream assessment protocols were determined to be inappropriate to apply to the embayment. Due to the proximity of the new outfall to Cheatham Reservoir, we considered the potential of the new discharge to cause degradation of Exceptional Tennessee Waters. See Evaluation for Exceptional Tennessee Waters memo dated June 10, 2008.

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Tennessee's Anti-Degradation Policy is found in *Rules of the Department of Environment and Conservation, Chapter 1200-4-3*. The policy prohibits degradation of Exceptional Tennessee Waters unless and until it is determined by the state that a lowering of water quality is necessary to accommodate important economic or social development in the area where the waters are located. The Division must first determine whether or not a new or expanded discharge will result in degradation of high quality waters. The *Rules* define "de minimis" discharges as those being of small magnitude or a short duration and state that de minimis discharges shall not be considered degradation for the purposes of the antidegradation policy.

The applicant submitted the required information for the permit modification to expand the area of operations, including an analysis of reasonable alternatives to surface water discharge. Based on this information and supporting plans, the Division has determined that the proposed expansion activity will not degrade Cheatham Reservoir. This determination is discussed below.

The NPDES permit limits the amount of Total Suspended Solids (TSS) that can be discharged into receiving waters. To assess the potential increase in pollutants due to the new discharge at Outfall 003, we assumed a "worst-case scenario" of the maximum discharge concentration at the period of lowest flow (when there will be the least dilution available). The details of this analysis are summarized below and can be found in the permit file.

- The TSS concentration in the discharge was assumed to be the maximum allowed by the permit (40 mg/L)
- The average stream background TSS was calculated from 10 years of water quality monitoring by the Division in the same reach of Cheatham Reservoir.
- The stream was assumed to be at the lowest one-day average flow with a return period of 10 years (1Q10 low flow). There is a 90% probability that the flow will be greater than or equal to this level.
- The TSS from the discharge was added to the receiving stream to calculate the new, in-stream concentration. This was then compared to the background condition to determine the increase in TSS attributable to the new discharge.

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The following statements support our determination that the proposed expansion activity will not degrade Cheatham Reservoir:

- 1) As a result of the analysis described above, the increase in TSS was determined to be 0.0 mg/L. The Division considers this to be a small magnitude.
- 2) The new outfall will only discharge in direct response to precipitation; therefore, discharges will be of short duration.
- 3) The rainfall that induces a discharge at the proposed outfall will also increase the background stream flow condition, providing a higher mixing ratio than the low-flow scenario analyzed.
- 4) The proposed expansion will employ multiple sediment basins placed in series and sized for the expected runoff volume from a 10-yr/24-hr storm. These are preferred treatment alternatives that improve the removal efficiency of TSS prior to discharge from the site.

Based on the finding of no degradation, the Division has followed normal application review procedures and will issue a draft NPDES permit to the applicant. The draft permit is being announced in the list contained in this public notice for a 30-day comment period.

Sincerely,



Don A. Owens
NPDES Program Manager
Division of Water Pollution Control